

GUT, I.

A New adjustment of wages in the building assembly production. p.123(Pozemni Stavby,  
Vol.5, no.3, Mar. 1957) Praha

SO: Monthly List of East European Accession (EEAL) LC, Vol.6, no.7, July 1957. Uncl.

GUT, M. (Zürich)

Evaluations of ~~class numbers~~ of quadratic bodies. Acta arithmetica  
8 no.2:113-122 '63.

GUT, Miroslav, inzh.

Political and economic significance of patent information and  
documentation. Ratsionalizatsiia 13 no.6:3-7 '63.

GUT, Miroslaw

Some current problems in the field of scientific, technical,  
and economic information in Czechoslovakia. Ratsionalizatsiia  
13 no.9: 1-3 '63.

1. Sotrudnik na upravlenie za patenti i izobreteniia, Praga.

S/169/62/000/002/047/072  
D228/D301

AUTHOR: Gut, S.

TITLE: More attention to the protection of air from dust and smoke pollution

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 2, 1962, 60, abstract 2B452 (Chrońmy przyr. ojcz., 17, no. 4, 1961, 32-36, 56)

TEXT: In a number of examples the author shows the danger of atmospheric pollution, the growth of disease, and the increase of the death rate among the population of industrial areas. Data about aerial pollution in Poland are cited. Smoke suspended in the air contains particles of valuable metals (zinc, lead, cadmium) which, on the one hand, are harmful for human organisms and, on the other hand, represent a loss of valuable material. Methods of preventing the fall of harmful impurities in the atmosphere are considered together with the benefit which this will bring for human health and the state economics. /-Abstracter's note: Complete translation. /  
Card 1/1

DRZAL, Maria, mgr., st., asystent; GUT, Stefan, mgr., adjunkt

Remnants of ancient technology and the natural environment. Problemy  
18 no. 2:134-138. '62

GUT, V.  
SURNAME, Given Names

Country: Czechoslovakia

Academic Degrees: [not given]

Affiliation: Institute of Organic Chemistry, Charles University  
(Institut fuer organische Chemie, Karlsuniversitaet), Prague

Source: Prague, Collection of Czechoslovak Chemical Communications,  
Vol 26, No 10, October 1961, pp 2542-2550

Data: "Partial Substitution of 1,6-Anhydro-beta-D-Glucopyranose."

Authors:

CERNY, M

GUT, V

PACAK, J

CERNY, M.; GUT, V.; PACAK, J.

Partial substitution of 1,6-anhydro- D-glucopyranose. Coll Cz Chem  
26 no.10:2542-2550 0 '61.

1. Institut fur organische Chemie, Karlsuniversitat, Prag.



RUDINGER, J.; FAKASOVA, H.; GUT, V.

Amino acids and peptides. Pts. 40-41. Coll Cz Chem 28  
no. 11:2941-2968 N°63.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague.

BABASHEV, B.S.; ROZHKOVA, A.P.; GUT, V.A.; SEMENOV, G.V.

Prolapse of the heart from the pericardium into the pleural cavity following a pneumectomy. Trudy Inst. klin. i eksp. khir. AN Kazakh. SSR 9:100-103 '63. (MIRA 17:12)

CHABUNOVSKIY, V.A.; GUT, V.A.

Use of intramuscular barbiturate basic anesthesia in child  
surgery. Trudy Inst. klin. i eksp. khir. AN Kazakh. SSR  
9:156-160 '63. (MIRA 17:12)

Guta, C. ; Tipei, N.

Motion of an airplane upon a given trajectory. p. 855.

Academia Republicii Populare Romine. STUDII SI CERCETARI DE MECANICA APLICATA.  
Bucuresti, Rumania. Vol. 9, no. 4, 1958.

Monthly List of East European Accessions (EEAL) LC Vol. 9, No. 2, January 1960.

Uncl.

GUTA, Craciun;

Experimental investigation of the blade system of the axial compressor designed by considering the losses of energy.  
Bul Inst Politeh 26 no.2:111-125 Mr-Ap '64.

1. Chair of Aeronautic Constructions, Polytechnic Institute, Bucharest.

MARINESCU, Al.; GUTA, C.

Forced vibrations of rockets with discontinuous disturbing charges. Bul Inst Politeh 26 no.3:127-136 My-Je '64.

1. Chair of Aviation, Polytechnic Institute, Bucharest.

GIPA, Gracian

Considerations on determining the speed field entering the  
mobile blade system of the axial compressor. Bul Inst Politeh  
26 no.5-109-117 S.C. '64.

1. Chair of Aeronautic Constructions, Polytechnic Institute,  
Bucharest.

ILIESCU, C. C., Prof.; KLEINERMAN, L., Conf.; RATIU, O., dr.;  
PANTZER, M., dr.; GUTA, G., dr.; EFRAIM, M., dr.; ROLAND, F., dr.;  
GHEORGHIADU, T., dr.; LECCA, S., lab.

Cardiac catheterization in congenital cardiovascular defects.  
Med. int., Bucur. 8 no.3:339-359 July 56.

1. Lucrare efectuata in Clinica a III-a medicala I.M.F.  
Bucuresti.

(CARDIOVASCULAR DEFECTS, CONGENITAL, diagnosis  
cardiac catheterization)

(CATHETERIZATION, CARDIA, in various dis.  
cardiovascular defects, congen.)



TEODOREANU, T., dr.; OPROIU, A., dr.; GUTA, Georgeta, dr.

Problems of differential diagnosis in constrictive pericarditis and constrictive cardiopathies. Med. int., Bucur. 11 no. 11: 1719-1730 N '59.

1. Lucrare efectuata in Clinica medicala, Spitalul "Bernat Andrei", Bucuresti.

(PERICARDITIS, diagnosis)

ILIESCU, C.C., prof.; KLEINERMAN, L., conf.; GUTA, G., dr.; DUMITRESCU, S., dr.;  
BOGDAN, O. DUMITRESCU, dr.

Persistence of the left superior vena cava with flow into the right auricle through the coronary sinus, demonstrated by cardiac catheterization. Med. intern., Bucur. 11 no. 5: 751-756 '60.

1. Lucrare efectuata in Clinica medicala a Spitalului "Bernat Andrei", Bucuresti.

(VENAE CAVAE, abnormalities.)

(HEART DEFECTS, CONGENITAL, case reports)

(HEART CATHETERIZATION )

KLEINERMAN, Par L.; GHITA, M.; STEFANESCU, T.; ILIESCU, M.; BANDU, I.;  
GUTA, G.

The importance of intracavitary electrocardiography for the diagnosis  
of Ebstein's anomaly complicated by auricular fibrillation. Cor Vasa 3  
no.3:231-237 '61.

1. Centre cardiologique "ASCAR", Institut de Pharmacie et de Medecine,  
Bucarest.

(HEART DEFECTS CONGENITAL diagn)  
(AURICULAR FIBRILLATION diagn)  
(ELECTROCARDIOGRAPHY)

ILIESCU, C. C., prof.; KLEINERMAN, L., dr.; STEFANESCU, T., dr.; GHITA, M., dr.;  
BANDU, I.; EFRAIM, M., dr.; GUTA, G., dr.

Left heart catheterization by the trans-septal route. Med. intern. 13  
no.11:1485-1489 N '61.

1. Lucrare efectuata la A.S.C.A.R. Bucuresti.

(HEART CATHETERIZATION)

1. 1. 1.

GUTAI, I.

"Remarks on some Problems of the Routing System", P. 32. (TOPISTEN FILES,  
Vol. 7, No. 3, Mar. 1953, Budapest, Hungary)

SC: Monthly List of East European Accessions, (REAL), LC, Vol. 4,  
No. 1, Jan. 1955, Uncl.

BANASZKIEWICZ, Henryk; GUTAKER, Mirosława

Treatment of gonorrhea in young girls. *Pediatr. Polska* 35 no.1:47-56  
Ja '60.

1. Z oddziału I Szpitala Miejskiego nr.2 w Warszawie. Dyrektor i  
ordynator: prof.dr.med. B. Michalowski.  
(GONORRHEA in inf.& child.)

MICHALOWSKI, Bohdan; GUTAKER, Mirosława

Oral therapy of dermatomycoses with griseofulvin. (Preliminary communication. Przegl.derm.,Warsz. 47 no.2:111-112 Mr-Ap '60.

1. Z Oddziału Dziecięcego Skorno-Wenerycznego Szpitala Miejskiego nr 2 w Warszawie. Ordynator: prof.dr B. Michalowski.  
(DERMATOMYCOSIS ther.)  
(GRISEOFULVIN ther.)

PARKHOMENKO, Vasilii Georgiyevich; ARKHANGEL'SKIY, N.A., prof., retsenzent;  
BULGAKOV, N.V., prof., retsenzent; ZAYTSEV, V.G. (Moskva), kand.tekhn.  
nauk, retsenzent; SHEKLAKOV, D.M. (Moskva), prepodavatel', retsenzent;  
PISHCHANSKAYA, B.A. (Odessa), prepodavatel', retsenzent; GUTAN, M.I.,  
prepodavatel', retsenzent; GOL'DIN, A.E., prepodavatel', retsenzent;  
KHRYPOV, N.N. (Sverdlovsk), prepodavatel', retsenzent; DERYABINA,  
L.I., prepodavatel', retsenzent; YEMEL'YANOV, D.M. (Leningrad), pre-  
podavatel', retsenzent; GONCHAROVA, L.D. (Simferopol'), prepodavatel',  
retsenzent; MATVEYEV, Ye.P., prepodavatel', retsenzent; ALEKSEYEV,  
I.M., prepodavatel', retsenzent; DUDINSKIY, S.L. (Leningrad), pre-  
podavatel', retsenzent; BABUN, V.B. (Khar'kov), kand.tekhn.nauk,  
retsenzent; CHERNOV, N.V., prof., doktor tekhn.nauk, spetsred.;  
BORISOVA, G.A., red.; SUDAK, D.M., tekhn.red.

[Introduction to the study of commercial wares] Vvedenie v tovaro-  
vedenie promyshlennykh tovarov. Moskva, Gos.izd-vo torg.lit-ry,  
1959. 135 p. (MIRA 12:7)

(Commercial products)



PARKHOMENKO, Vasily Georgiyevich; ARKHANGEL'SKIY, N.A., prof.,  
retsenzent; [deceased]; BULGAKOV, N.V., prof., retsenzent;  
ZAYTSEV, V.G., retsenzent(Moskva); SHEKLAKOV, D.M., prepoda-  
vatel' tekhnikumov sovetskoy trgovli, retsenzent(Moskva);  
KOZLOVA, Z.V., retsenzent (Moskva); PISHCHENSKAYA, B.A., re-  
tsenzent (Odessa); GUTAN, M.K., retsenzent; GOL'DIN, A.E.,  
retsenzent; KHRYFOV, N.N., retsenzent(Sverdlovsk); DERYABINA,  
L.I., retsenzent; YEMEL'YANOV, D.M., retsenzent (Leningrad);  
GONCHAROVA, L.D., retsenzent(Simferopol'); MATVEYEV, Ye.P.,  
retsenzent; ALEKSEYEV, I.M., retsenzent; DUDINSKIY, S.L.,  
retsenzent(Leningrad); BABUN, V.B., kand. tekhn. nauk, re-  
tsenzent(Khar'kov); CHERNOV, N.V., prof., doktor tekhn. nauk,  
spets. red.; BORISOVA, G.A., red.; GROMOV, A.S., tekhn. red.

[Introduction to a knowledge of manufactured goods]Vvedenie v  
tovarovedenie promyshlennykh tovarov. Izd.2., dop. i perer.  
Moskva, Gostorgizdat, 1962. 142 p. (MIRA 16:1)  
(Commercial products)

DOC NR: AT4001250

S/2504/63/023/000/C.14/0.1

AUTHORS: Levshin, V. L.; Arapova, E. Ya.; Blazhevich, A. I.; Kozlov, Yu. V.; Voronova, I. G.; Gutan, V. B.; Lavrov, A. V.; Popov, M.; Fridman, S. A.; Chikhacheva, V. A.; Shchavenko, V. V.

STUDY OF CATHODE LUMINESCENCE OF ZINC SULFIDE AND ZINC SULFIDE PHOSPHORS

USSR. Fizicheskiy institut. Trudy\*, v. 23, 1963, No. 1, pp. 1-10.

KEYWORDS: luminescence, cathode luminescence, phosphor, zinc sulfide phosphor, phosphorescence, photoluminescence, zinc sulfide, excitation energy, phosphor excitation

ABSTRACT: This is a review article devoted to a theoretical and experimental analysis of excitation energy losses in cathode luminescence, the approximate maximum cathode luminescence yield, exchange

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ACC-SSION NR: AT4001250

of energy between an electron beam and a layer of luminor through which it passes, and also the evolution of individual glow processes as functions of the excitation density and the temperature. Particular attention is paid to an investigation of the persistence properties of ZnS phosphors and their connection with the location and filling of the electron and hole localization levels. A detailed analysis is made of the energy losses resulting from thermalization of the electrons and holes, and it is shown that in cathode luminescence these unavoidable losses are very large and decrease the glow efficiency by approximately 2.5 times. Allowing for other losses, the over-all glow efficiency in cathode luminescence cannot exceed 0.27--0.30. The study of the passage of an electron beam through sublimated layers of zinc-sulfide luminors has established the voltage dependence of the electron penetration depth and the energy losses at different depths of electron penetrations. The dependence of the spectral composition, brightness, and energy glow yield of various zinc-sulfide and phosphate luminors on the current density.

Cont. 2/4

ACCESSION NR: AT4001250

voltage, and temperature were investigated. A glow efficiency of 0.256 was calculated for one type ZnS-Ag luminor. The attenuation of glow of different types of cathode luminors to 0.1, 0.01, and 0.001 of the initial brightness was investigated and the presence of two superimposed de-excitation processes of different durations is established. The causes of the reduction in the duration of afterglow with increasing excitation density are considered. The arrangement and development of localization level of the investigated luminors was studied by the thermal de-excitation method and a connection was established between the attenuation and liberation of the levels at definite depths. "The authors are grateful to senior designer A. G. Ovchinnikov, radio technicians V. P. Ly\*sov and Yu. A. Platukhin, senior laboratory assistants Z. M. Bruk, S. B. Kondrashkin, N. V. Mitrofanova, L. N. Petrakov, and A. D. Sy\*chkov and laboratory assistant V. P. Prokhorova who helped with the present work." Orig. art. has: 66 figures, 28 formulas, and 4 tables.

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SOV/51-6-3-14/28

AUTHORS: Levshin, V.L., Gutan, V.B. and Karzhavina, E.N.

TITLE: On the Possibility of Recombination Processes in Luminescence of Tungstates and Uranyl Compounds (O vozmozhnosti rekombinatsionnykh protsessov svecheniya v vol'framatakh i uranilovykh soyedineniyakh)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 3, pp 372-376, (USSR)

ABSTRACT: This paper was presented at the Seventh Conference on Luminescence in July 1958. The authors describe their studies of luminescence of uranyl silicate ( $\text{UO}_2\text{SiO}_3$ ) and calcium tungstate ( $\text{CaWO}_4$ ). The apparatus used was developed by a group of engineers working at the Physics Institute imeni P.N. Lebedev at the Ac. Sc. USSR, who were directed by A.G. Zavrazhin and amongst whom was E.N. Karzhavina. This apparatus made it possible to study luminescence of phosphors excited with electrons or with light between  $-185$  and  $+300^\circ\text{C}$ . Both substances were free from impurities.  $\text{CaWO}_4$  was prepared by Yu.S. Leonov

Card 1/3 of FIAN. The phosphors were irradiated with a  $10^{-7}$  A/cm<sup>2</sup>,

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On the Possibility of Recombination Processes in Luminescence of Tungstates and Uranyl Compounds

14 kV beam of electrons for 30 minutes at  $-185^{\circ}\text{C}$ . When cathodoluminescence died away completely the phosphors were heated at the rate of  $10^{\circ}\text{deg/min}$ . The resultant thermal de-excitation (thermoluminescence) curves are shown in Figs.1 ( $\text{UO}_2\text{SiO}_3$ ) and 3 ( $\text{CaWO}_4$ ). Electron-irradiated, thermally de-excited and subsequently photoexcited at 366 and  $312\text{ m}\mu$ , calcium tungstate also exhibited thermoluminescence (Fig.4). Photoexcitation of  $\text{CaWO}_4$ , which was not previously electron-irradiated, and photoexcitation of  $\text{UO}_2\text{SiO}_3$ , whether electron-irradiated or not, did not produce any thermoluminescence. The intensities of thermoluminescence were of the order of several per cent compared with cathodoluminescence. Cathodoluminescence of both substances decayed hyperbolically at  $-185^{\circ}\text{C}$  (Figs.5,6). The observed thermoluminescence and the hyperbolic decay of cathodoluminescence are ascribed to disturbance of the crystal lattice by the electron beam with resultant formation of centres at which electrons can be localised.

Card 2/3 Cathodoluminescence is due to recombination of all the

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On the Possibility of Recombination Processes in Luminescence of Tungstates and Uranyl Compounds

trapped electrons liberated from shallow levels, and thermoluminescence is due to the electrons freed from deeper levels. There are 6 figures and 4 references, of which 2 are Soviet, 1 German and 1 English.

SUBMITTED: March 27, 1958

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LEVSHIN, V.L.; VORONOV, Yu.V.; GUTAN, V.E.; FRIDMAN, S.A.; SEMAYENKO, V.V.

Action of double activation with silver and samarium at the localization, level and emission of zinc sulfide phosphors. Izv. AN SSSR. Ser. fiz. 25 392-399 Mr '61. (MIA 14:2)

1. Fizicheskiy institut imeni P.N.Lebedeva Akademii nauk SSSR.  
(Zinc sulfide--Spectra)



L 18748-63

EWP(q)/EWT(m)/BDS AFFTC/ASD JD/JG

ACCESSION NR: AT3002226

S/2941/63/001/000/0230/0239

AUTHORS: Levshin, V. L.; Voronov, Yu. V.; Gutan, V. B.; Fridman, S. A.;  
Shohayenko, V. V. 60

TITLE: Radiation composition of luminescence centers in ZnS-Sm phosphors

SOURCE: Optika i spektroskopiya; sbornik statey, v. 1: Lyuminesentsiya.  
Moscow, Izd-vo AN SSSR, 1963, 230-239

TOPIC TAGS: radiation, phosphor, activator, ion, spectra

ABSTRACT: The spectra of  $\text{Sm}^{3+}$  in ZnS-Sm-phosphor without melt and with 4%  $\text{MgCl}_2$  melt were analyzed to study the interaction between activator ions and the lattice and obtain information about radiation composition. The Sm concentration was varied between  $10^{-7}$  and  $10^{-2}$  gm/gm, and in addition a variable concentration of silver was added ( $10^{-6}$  to  $10^{-3}$  gm/gm). Three types of luminescence centers were obtained, lying in the red, orange, and yellow-green parts of the spectra. These were enhanced by changing the phosphor composition. A temperature test from 20-120C indicated that several radiation bands were formed as a result of electronic and vibrational frequency combinations. Orig. art. has: 7 figures and 4 tables.

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1957, V. 1, p. 100.

Dissertation: "The influence of the shape of the intake on the heat emission and the frictional resistance in the initial part of a straight tube." Candidate Sci., Moscow Institute of Chemical Machine Building, p. 54. (Vostochnyya Moshyn, Moscow, 2, Jun 54)

Doc: 502 518, 23 Dec 1954.

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S/124/59/000/011/009/017  
A005/A001

10.4000

Translation from: Referativnyy zhurnal, Mekhanika, 1959, No. 11, pp. 132-133,  
# 13711

AUTHOR:

Gutarev, V.V.

TITLE:

Heat Exchange in the Initial Section of Straight Tube With Different  
Entrance Shapes

PERIODICAL: Tr. Mosk. in-ta khim. mashinostr., 1958, Vol. 15, pp. 25-40

TEXT: The author studies experimentally the heat emission nature in the initial section of a circular tube, depending on the entrance conditions. The tube made of copper is 1,806 mm long and 20/30 mm in Diameter. The investigations were carried out with water; the Reynolds number varied within the range from 10,000 to 60,000. For varying the entrance conditions, five detachable nozzles were produced of designs used in practice: a smooth entrance nozzle (initial diameter 50 mm), a smooth elbow (90°;  $R = 3d$ ), and others. The temperatures of liquid and tube surface and the emitted heat were measured. The local heat emission coefficient was found. Graphs and empirical formulae are presented, which express the dependence of the local Nusselt number on the Reynolds- and

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82185

S/124/59/000/011/009/017  
A005/A001

Heat Exchange in the Initial Section of Straight Tube With Different Entrance Shapes

Prandtl-numbers and on the  $x/d$  ratio ( $x$  is the distance from the entrance,  $d$  is the tube diameter). It is shown that the local heat emission coefficient decreases generally with increasing distance from the entrance; in case of smooth entrance and elbow, the decrease is monotonous, in case of a cusped entrance, the dependence appears to be non-monotonous. It is pointed out that, when varying the entrance conditions, different distributions of the Nusselt number  $N$  along the tube length can be obtained. It is shown that an effect of the entrance conditions (for the investigated nozzle shapes) occurs only for  $x < 15d$ . A limit value of the heat emission coefficient independent of  $x$  and the entrance shape is attained for  $x > 50d$ . The obtained data are compared with the results of the other authors.

O.Z. Gershuni

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S/191/61/000/012/006/007  
B110/B147

AUTHORS: Royzen, I. S., Gutarev, V. V., Mal'tseva, A. S.

TITLE: Examination of burning characteristics of plastics

PERIODICAL: Plasticheskiye massy, no. 12, 1961, 32 - 36

TEXT: Between the classes of inflammable and poorly inflammable plastics established according to standards M-102-54 (N-102-54), "conditionally non-inflammable, self-extinguishing" plastics should be ranged as an intermediate stage. The Tsentral'nyy nauchno-issledovatel'skiy institut pozharnoy okhrany (Central Scientific Research Institute of Fire Protection) has recommended the following methods: (a) method with "fire tube"; (b) calorimetric method; and (c) method of the velocity of flame propagation. The TsNIPO recommends determining loss in weight and capability of glowing and burning in open flame by (a). At  $>20\%$  loss in weight, the plastics are inflammable; at a loss in weight  $< 20\%$  and self-extinction, (b) is applied. In this case, it holds:  $K = q_{hr}/q_s$ ,  
where  $q_{hr}$  = amount of heat released in combustion of the sample;

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Examination of burning characteristics... S/191/61/000/012/006/007  
B110/B147

$q_s$  = amount of heat supplied from the heat source. At  $K = 0$ , the material is not inflammable, at  $K > 0.5$  poorly inflammable, at  $K < 2.1$  inflammable. Besides, a poorly inflammable class was suggested between  $K = 0.5 - 2.1$ . Comparison between Western and Soviet methods showed that the loss in weight is the most convenient index of inflammability of  $> 1$  mm thick solid plastics. At  $< 1$  mm thick films, the length of the burnt section and the rate of burning can be most reliably determined. Therefore, the authors suggest to determine the inflammability (A) of 1 - 10 mm thick solid and powder plastics, and (B) of flexible  $< 1$  mm thick films. In this case, the investigation conditions of the fire tube of the TsNIIPO were established by using an alcohol burner with an alcohol of definite quality and concentration. A 200-v nichrome heating coil is wound on a tube made of quartz or molybdenum glass (Fig. 6) 50 mm above the lower edge. Six samples (35-150, thickness 1 - 10 mm) weighed with an accuracy of 0.5 g, are suspended in exactly vertical position. The sample ends project below by 5 mm, and they are inflamed 10 mm above the burner within 2 min by a 40 mm high flame. The surface temperature is kept at  $20 - 30^{\circ}\text{C}$  below the melting temperature of the sample. Loose material is filled into a small Cu wire basket. The following classes of plastics are

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S/191/61/000/012/006/007

Examination of burning characteristics... B110/B147

established: (a) inflammable with >20% loss in weight; (b) poorly inflammable with <2% loss in weight and <30 sec afterglow; (c) "conditionally non-inflammable and self-extinguishing" with <8% loss in weight, extinguishing at once; (d) non-inflammable, not burning on double ignition. The mean loss in weight in the fire tube for viniplast is 7.7%, in the heated fire tube 6%, for glass plastics 2.5% and 5.5%. When inflaming 150·112·3 mm samples of pine, viniplast and glass plastics impregnated with gasoline for 3 hr, viniplast and glass plastics did not burn. As a modification of the British standard 476, a 40-550 sample (<1 mm thick) is heated on needles placed on a hemispherical frame (1, Fig. 7). Ignition is caused by an alcohol burner with 40-mm high flame. In this case, the following classes are established: (a) poorly inflammable at 30 sec afterglow and 50 mm length of the burnt section; (b) conditionally non-inflammable, self-extinguishing, with extinction occurring immediately after removing the flame; (c) non-inflammable, after double ignition. Advantages of the method: (1) Burning conditions variable with time; (2) estimation of burning rate according to the length of the burnt section; and (3) simple handling. Since most of the plastics are inflammable, halogen derivatives of hydrocarbons must be

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Examination of burning characteristics... S/191/61/000/012/006/007  
B110/B147

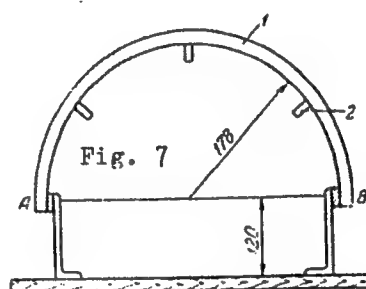
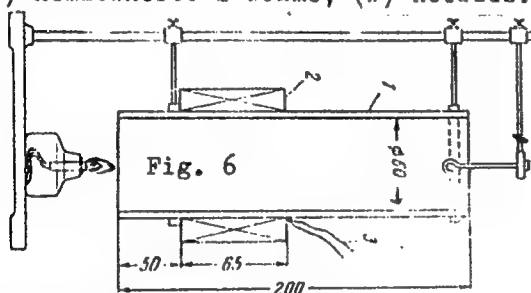
used for producing non-inflammable, self-extinguishing plastics. There are 7 figures and 3 tables.

Fig. 6. Diagram of an apparatus for determining the degree of inflammability of solid and powder plastics.

Legend: (1) tube; (2) heater; (3) thermocouple.

Fig. 7. Diagram of an apparatus for determining the inflammability of films.

Legend: (1) hemispherical frame; (2) needles.



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S/032/62/028/004/011/026  
B101/B138

AUTHORS: Royzen, I. S., Gutarev, V. V., and Mal'tseva, A. S.

TITLE: Determination of inflammability of plastics

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 4, 1962, 467-468

TEXT: No standard method of determining inflammability has been promulgated in the USSR. The Tsentral'nyy nauchno-issledovatel'skiy institut pozharney okhrany (Central Scientific Research Institute of Fire Protection) recommends the fire tube and calorimetric methods, or measurement of the rate of flame propagation. The inflammability of rigid and free-flowing plastics was tested by the fire tube method. The apparatus consisted of a 2 mm-thick quartz or molybdenum glass tube heated by a nichrome coil attached to it 50 mm from the bottom end. The temperature of the outer wall was measured at height  $h = 2/3 l$ . The temperature was kept  $20 - 30^{\circ}\text{C}$  below the melting point of the plastic. A piece of the plastic of precise weight was suspended inside the tube (free-flowing material was held in a copper mesh basket) so that 5 mm of it projected beyond the tube. An alcohol burner, flame

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Determination of inflammability...

S/032/62/028/00A/011/026  
B101/B138

length 40 mm, was placed 10 mm below and burned for 2 min. Dependent on the behavior after removal of the flame, the following material classification is suggested: inflammable, if burning continues and weight loss is more than 20%; slow-burning, if burning or glowing continues for not more than 30 sec with less than 20% loss in weight; conditionally flame resistant and self-extinguishing if the flame dies at once and the weight loss is less than 8%; noninflammable, if it does not catch alight in two tests. Inflammability of sheets and films was determined on an apparatus similar to that recommended by British Standard no. 476. A 40 mm alcohol flame was applied for 30 sec. The length of the piece burned and burning time after removal of the flame were determined. There are 2 figures and 1 Soviet reference.

ASSOCIATION: Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow  
Institute of Chemical Machinery)

Card 2/2

AKOPYAN, L.A.; VARYGIN, N.N.; GUTAREV, V.V.; ZYKOV, D.D.; KARAVAYEV, N.M.;  
KONDUKOV, N.B.; LASTOVTSEV, A.M.; MAKAROV, Yu.I.; MAZUROV, D.Ya.;  
MARTYUSHIN, I.G.; MASLOVSKIY, M.F.; NIKOLAYEV, P.I.; PLANOVSKIY,  
A.N.; RYCHKOV, A.I. [deceased]; CHEKHOV, O.S.; KHVAL'NOV, A.M.;  
SHAKHOVA, N.A.

Theory and practice of heterogeneous processes in a fluidized  
bed. Trudy MIKHM 26:3-22 '64. (MIRA 18:5)

L 09431-67 ENT(d)/ENT(m)/ENT(f) FDN/DJ/WE  
ACC No AP6033503 SOURCE CODE: UR/0413/66/000/018/0134/0134

INVENTOR: Andrusenko, P. I.; Gutarevich, Yu. F.; Shukshin, N. P.

ORG: none

TITLE: Fuel-injection system for an internal combustion engine. Class 46,  
No. 186221

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 17,  
1966, 153

TOPIC TAGS: fuel injection, internal combustion engine, bushing, shaft,  
injector pump

ABSTRACT: An Author Certificate has been issued describing a fuel-injection system for an internal-combustion engine with spark ignition containing a pump and rotating shaft (distributor) with fuel channels for supplying fuel to the injectors. To increase the economy of engine operation under partial loads, a bushing with radially arranged through holes is mounted on the shaft; it can be moved in the axial direction by a gear-drive mechanism. The number of through

Card 1/2

UDC: 621.43.037.21

L 09431-67

ACC NR: AP6033503

holes along the length of the bushing for each cross section depends on the power corresponding to the present mode of operation (see Fig. 1). Orig. art. has: 1 figure. [Translation]

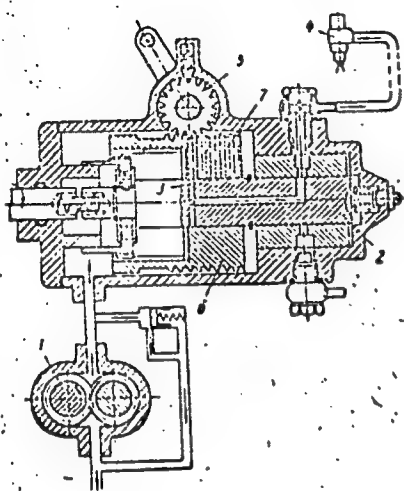


Fig. 1. Fuel-injection system for an internal-combustion engine.  
1—Gear pump; 2—shaft;  
3—fuel channel; 4—injectors;  
5—gear-drive mechanism;  
6—bushing; 7—radial through hole

SUB CODE: 13/ SUBM DATE: 15May65/

Card 2/2 JC

DYUBYUK, Petr Yevgen'yevich; KRUCHKOVICH, G.I.; GLAGOLEVA, N.N.;  
GUTARINA, N.I.; PANFILOVA, I.A.; RIMSKIY-KORSAKOV, B.S.;  
SENKEVICH-PURSHTEYN, R.S.; SULEYMANOVA, Kh.R.; CHEGIS, I.A.;  
SELIVERSTOVA, A.I., red.; GOROKHOVA, S.S., tekhn.red.

[Problems for a higher mathematics course in technical  
schools of higher education] Sbornik zadach po kursu vys-  
shej matematiki dlia vtuzov. [By] P.E.Diubiuk i dr. Moskva,  
Vysshaia shkola, 1963. 661 p. (MIRA 17:1)

DYUBYUK, P.Ye.; KRUCHKOVICH, G.I.; GLAGOLEVA, N.N.; GUTARINA,  
N.I.; PANFILOVA, I.A.; RIMSKIY-KORSAKOV, B.S.; SENKEVICH,  
R.L.; SULEYMANOVA, Kh.R.; CHEGIS, I.A.; GEYDEL'MAN, R.M.,  
prof., retsenzent; SELIVERSTOVA, A.I., red.

[Problems for a course in higher mathematics] Sbornik zadach po kursu vysshei matematiki. Moskva, Vysshaya shkola, 1965. 590 p. (MIRA 18:8)

GUTAROVICH, L.V.

Systems for efficient maintenance of storage batteries. Khol.tekh.  
40 no.1:48-49 Ja-F '63. (MIRA 16:3)  
(Storage batteries—Maintenance and repair)



L 65134-65 EWT(m)/EPF(c)/EWP(j)/T RM

ACCESSION NR: AP5021595

UR/0286/65/000/013/0069/0069

AUTHORS: Bardenshteyn, I. B.; Gutarts, F. M.; Dymshits, E. L.; Naumov, Yu. I.; Vaysor, L. V.

TITLE: A method for obtaining plastic made of lignite-furfurol resin. Class 39, No. 172484

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 69

TOPIC TAGS: plastic, resin, lignite, furfurol, urotropine, epoxy, methaphenylene diamine

ABSTRACT: This Author Certificate presents a method for obtaining plastic made of lignite-furfurol resin, a filler, and urotropine. To improve its physico-chemical properties, melted epoxy resin and methaphenylene diamine are added to the composition as a hardener.

ASSOCIATION: none

SUBMITTED: 26Aug63

ENCL: 00

SUB CODE: 00

NO REF SOV: 000

OTHER: 000

Card 1/1 bab

BERLIAND. Abram; POPOVA, Galina Fedorovna; GUTAIUSKAS, V. [translator];  
PARCZIENE, A., red.; ANAITIS, J., tekn. red.

[Care of the sick at home; for study circles on the care of  
the sick at home] Ligonių slaugymas namie; skiriama besi-  
mokantiems ligonių slaugymo namie rateliuose. Vilnius, Valsty-  
binė politinės ir mokslinės literatūros leidykla, 1961. 112 p.  
(MIRA 15:3)

(Home nursing)

GUTBERG, H.S. (g. Nikolayev).

Rewinding the coils of electric measuring equipment of an electro-  
magnetic system for new limits of measurement. Politekh. obuch.  
no.3:54-56 Mr '58. (MIRA 11:2)

(Electric measurements)

NESHCHERETNYY, P.M.; GUTCHENKO, P.I.

Crane manufacture at the Novo-Kramatorsk Plant. Sbor.Novo-Kram.  
mashinostroi.zav. no.1:115-131 '59. (MIRA 16:12)

GUTCHIN, I., inzh.

World of the new science ("What is electronics?" by K.Gladkov.  
Reviewed by I.Gutchin). Nauka i zhizn' 27 no.12:75 D '60.

(MIRA 13:12)

(Electronics)

(Gladkov, K.)

AL'PEROVICH, Yu.I.; GUTCHIN, I.B.; KAYBYSHEVA, L.S.; TEPOV, L.P.;  
BOGDANOV, G.G.; DROBYSHEV, Yu.G.; SMIRNOV, G.V.;  
TRET'YAKOV, V.S.; BREYDO, M.I.; YEVSEYEV, L.A.; STEBAKOV,  
S.A.; FEDCHENKO, V., red.

[The ABC's of automation; collected articles] Azbuka avto-  
matiki; sbornik. Moskva, Molodaia gvardiia, 1964. 349 p.  
(MIRA 17:7)

L 58541-65

ACCESSION NR: AP5012875

UR/0280/65/000/002/0047/0057

10  
B

AUTHOR: Gutchin, I. B. (Moscow); Kuzichev, A. S. (Moscow)

TITLE: Optimal synthesis of formal neurons

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 2, 1965, 47-57

TOPIC TAGS: neuron, formal neuron, neuron synthesis

ABSTRACT: A definition of the formal neuron after Warren McCulloch (Proc. Symp. on Mech. of Thought Processes, N. P. L. Teddington, England, 1959) is given. A general case of synthesizing a 4-input neuron is considered, and an algorithm for constructing the optimal neuron on the basis of its threshold diagram is developed. Fifteen equations are set up to describe an infinite number of formal neurons having a given diagram. The neurons having a minimum number of fibers are determined by three approaches: (1) The simplex linear-programing

method in which a form  $L = \sum_{i=1}^n a_i(p_i + q_i)$  is minimized with these N constraining

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L 58541-65

ACCESSION NR: AP5012875

conditions:  $a_i + \sum_{j=1}^n b_{i,j}(z_j' - z_j'') + p_i - q_i = 0, \quad i = 1, \dots, N;$  (2) The automatic optimization on a simulator; (3) Improvement of the neuron by successive examinations of its exciting-and-inhibiting-fiber tables (for 3-input neurons). The results of synthesis by any of the above methods are expressed by integers, and the number of fibers, for a given variant of the solution, is constant. Orig. art. has: 13 figures, 37 formulas, and 5 tables.

ASSOCIATION: none

SUBMITTED: 20Aug64

ENCL: 00

SUB CODE: DP

NO REF SOV: 002

OTHER: 003

*avm*  
Card 2/2



G. I. Glik, I. B. Moskvina, E. Z. Glik, and I. Glikva)

Optimal synthesis of formal neurons. 120, 111-112, 113-114, 115-116.  
no. 2: 47-57 Mr-Apr. 1965. (ALPA 18:1)

GUTCHIN, Izrail' Borisovich, kand. tekhn.nauk; FAYNBOYM, I.B.,  
red.

[Cybernetics and spaceships; cybernetics, bionics, outer  
space] Kibernetika i kosm. heskie korabli; kibernetika -  
bionika - kosmos. Moskva, Znanie, 1965. 31 p. (Novoe v  
zhizni, nauke, tekhnike. IX Seriya: Fizika, matematika,  
astronomiia, no.13) (MIRA 18:7)

L 26607-66 EWT(d)/T/EWP(1) IJP(c) BB/GG/JT

ACC NR: AP6012867

SOURCE CODE: UR/0030/66/000/003/0166/0168

AUTHOR: Gutchin, I.B. (Candidate of technical sciences)

98  
82  
B

ORG: none

TITLE: Problems of cybernetics (Symposium in Tbilisi)

SOURCE: AN SSSR. Vestnik, no. 3, 1966, 166-168

TOPIC TAGS: cybernetics, pattern recognition, neuron, mathematical model, scientific conference, algorithm, queueing theory, laser theory, PERT, computer language, mathematic logic, computer programming, computer, heuristic activity, automata/URAL-2 computer

ABSTRACT:

The Second All-Union Symposium on Problems of Cybernetics organized by the Scientific Council on Cybernetics of the Academy of Sciences USSR and the Institute of Cybernetics of the Georgian Academy of Sciences, held in Tbilisi from 24 to 27 November 1965, was attended by some 800 Soviet scientists. One hundred and forty-three papers were presented, the majority of which dealt with such questions as pattern recognition, heuristic models, simulation of neurons and of cerebral nerve centers, development of elements and of performance algorithms for learning automata, theory and technology of lasers, queueing systems, simulation of random processes, PERT systems, analysis of various programming languages, semiotics problems,

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2

L 26607-66

ACC NR: AP6012867

proof of new theorems by means of electronic digital computers, algorithmic searches for logical deductions, cybernetics problems in mathematical logic. The reviewer of the symposiums gives a more detailed description of papers which, in his opinion, are of particular interest, namely: simulation of elements and functions of the brain and the problem of an "artificial brain" which are connected with this simulation. Simulation of elements of the neural system and of an "artificial brain" were discussed at the symposium from the viewpoint of the theoretical possibility of realizing them at the present level of knowledge. All papers on this topic were divided into two groups: 1) mathematical models of neurons and of simple neural nets; 2) heuristic models. A large number of papers were dedicated to development of the theory of formal neurons. An interesting and promising idea was presented in a paper by V. V. Chavchanidze (Tbilisi). He introduced the concept of the time-space information field in cybernetics, using the analogy with the concepts of physical fields. This concept made it possible to describe the performance of actual nets by a unique method. He proposed applying the well developed formal apparatus of field theory and quantum mechanics to the analysis and synthesis of formal neurons, neural nets and to so-called "space-time automata".

In the paper by V. V. Chavchanidze, N. L. Melikadze, and I. Sh. Chumburidze (Tbilisi) on the basis of the theory of logical information functions, an attempt is made to establish a correspondence between the general structures of the external world and those structures with which

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L 26607-66

ACC NR: AP6012867

the brain reflects the external world by means of the neural net mechanism. The apparatus of information functions proposed by the authors describes in a unique manner the performance of neural nets under the most various actions of the variable external medium.

A. B. Kogan (Rostov-na-Donu) described his previously introduced hypothesis on a probabilistic-statistical approach to the simulation of neural activity and the theory of formal neurons. Problems of the theory of formal neurons were also studied by N. D. Sergeyenko, R. G. Gachechiladze, G. B. Avaliani (Tbilisi), and others.

A great deal of attention was paid to a series of papers on heuristic procedures. The paper by V. N. Pushkin (Moscow) under the title "Psychology of heuristic activity and some problems in the theory of automata" can be considered the key paper on this subject. The author proposed a series of exact definitions which served as a basis for formulating certain difficulties arising in the contemporary theory of automata, and means for overcoming them were indicated. R. Kh. Zaripov (Moscow) described experiments involving simulation of the harmonization process of a given melody by means of a Ural-2 computer.

Pattern recognition problems were analyzed in connection with the problem of simulating the functions of the brain. The greatest attention was paid to papers concerning the characteristics of pattern recognition systems, various algorithms for their design, and their utilization in

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L 26607-66

ACC NR: AP6912867

controlling complex technological processes. The problem of reliability of pattern recognition systems was analyzed by B. V. Barskiy (Kiev). He proposed an important reliability criterion in which the error probability function is taken as its measure. He indicated the possibilities of self-adjusting, learning, and self-learning of pattern recognition systems. Certain learning algorithms for pattern recognition automata were presented in the paper by Ye. K. Aleksandrov, V. P. Orlov, and V. L. Sul'povar (Leningrad). An interesting attempt was made by G. K. Krug and E. K. Letskiy (Moscow) to apply the methods of pattern recognition to the classification of manufacturing situations in solving the problem of controlling complex manufacturing processes.

[ATD PRESS: 4237-F]

SUB CODE: 06, 12, 09, 20 / SUBM DATE: none

Card 4/4 BLC

KLYAMKO, E.I.; KITOV, A.I., red.; KUKOLEVA, T.V., red.; GUTCHINA,  
N.Ya., red.; BELYAYEVA, V.V., tekhn. red.

[Network and test control in automatic digital computers]  
Skhemnyi i testovyi kontrol' avtomaticheskikh tsifrovyykh vy-  
chislitel'nykh mashin. Moskva, "Sovetskoe radio," 1963. 191 p.  
(MIRA 16:12)

(Electronic digital computers)

SRETENSKIY, V.N.; KUKOLEVA, T.V., red.; GUTCHINA, N.Ya., red.;  
BELYAYEVA, V.V., tekhn. red.

[Principles of the use of electronic superhigh frequency  
devices; characteristics, study methods and evaluation of  
the correctness of the use of superhigh frequency devices]  
Osnovy primeneniia elektronnykh priborov sverkhvysokikh  
chastot; svoistva, metody issledovaniia i otsenka pravil'-  
nosti primeneniia priborov SVCh. Moskva, Sovetskoe radio,  
1963. 416 p. (MIRA 16:12)

(Microwaves)



VENIGOLIN, Yelena Sergeevna, GULICHINA, N.Ya., red.

[Introduction to the calculus of operations] Vvedenie v  
issledovanie operatsii. Moskva, Sovetskoye radio, 1962.  
387 p. (MIK 17:9)

SHISHENOK, Nikolay Andreyevich; REIKEN, Vasilii Fedorovich;  
BARVINSKIY, Leonid L'vovich; *Prinimali uchastie*  
LEBER, V.Yu.; LASTOVCHENKO, M.M.; KREDETSER, B.P.;  
USHAKOV, I.A.; BARZILOVICH, Ye.Yu.; SEMETSKIY, S.A.;  
ALEKSANDROVA, A.A., red.; GUTCHINA, H.Ya., red.;  
LYUBINOVA, T.M., red.

[Principles of the theory of the reliability and operation of radioelectronic apparatus] *Osnovy teorii nadezhnosti i ekspluatatsii radioelektronnoi tekhniki*. Moskva, Sovetskoe radio, 1964. 550 p. (NIIA 18:2)

VITENBERG, I.M., doktor tekhn. nauk, red.; PETROV, G.M., kand.  
tekhn. nauk, red.; PUKHOV, G.Ye., red.; GUTCHINA, N.Ya., red.

[Problems of the theory and application of mathematical model-  
ing] Voprosy teorii i primeneniia matematicheskogo modeliro-  
vaniia. Moskva, Sovetskoe radio, 1965. 646 p.

(MIRA 18:4)

1. Chlen-korrespondent AN Ukr.SSR (for Pukhov).

ABRAMOV, S.A.; MARINICHEV, N.I.; POLYAKOV, P.D.; GUTCHINA, N.Ya.,  
red.

[Network methods of planning and administration; use of  
electronic computers for planning and administering  
engineering development] Setevye metody planirovaniia i  
upravleniia; primechanie EVM dlia planirovaniia i upravle--  
niia inzhenernymi razrabotkami. Moskva, Sovetskoe radio,  
1965. 166 p. (MIRA 18:5)

KAZAROVTSSEV, V.S.; GUTCHINA, N.Ya., red.

[Instrument for control] Instrument upravleniia. Moskva, Sovetskoe radio, 1965. 91 p. (MikA 18:9)

1910, Stanford, N.Y. 10024, N.Y. 10024, N.Y. 10024.

The U.S. is a vital computer in the service of mankind. Wisdom  
from 1500-1900-1900-1900.

CUNDERLIK, V.; TARABCAK, M.; GUTEKOVA, A.

Tissue culture of hyperplastic or otherwise changed endometrium.  
(Preliminary report). Bratisl. lek. listy 42 no.5:272-278 '62.

1. Z Krajskej hygienicko-epidemiologickej stanice v Kosiciach,  
riaditel MUDr. J. Kratochvil, a z Ustavu narodneho zdravia v Medzi-  
laborciach, porodnica, byv. veduci doc. MUDr. V. Cunderlik, C. Sc.

(ENDOMETRIUM pathol)

(MENORRHAGIA AND METRORRHAGIA pathol)

(TISSUE CULTURE)

TARABCAK, M.; GUTEKOVA, A.; PETROCI, J.

The presence of adenoviruses in excised tonsils. Bratisl.  
lek. listy 43 Pt. 1 no.8:471-477 '69.

1. Krajska hygienicko-epidemiologicka stanica v Kosiciach,  
riaditel MUDr. I. Kratochvil, a Detska klinika Lek. fak. Univ.  
P.J. Safarika v Kosiciach, veduci prof. MUDr. F. Demant.  
(ADENOVIRUS) (TONSIL) (RHEUMATIC FEVER)  
(PURPURA) (ASTHMA) (LYMPHADENITIS)



GUTEKUNST, Wlodzimierz

A Czech pioneer of dactyloscopy. Arch.med.sad.Warszawa 6:189-196  
1955.

(FINGERPRINTS,

hist. of dactyloscopy, contribution of Purkinje, J.E.)

(BIOGRAPHIES,

Purkinje, J.E.)

P/031/61/000/004/0-18, CIP  
D242/D301

AUTHOR: Gutenbaum, Jakub

TITLE: Certain characteristics of a pulse-controlled d.c. motor

PERIODICAL: Archiwum automatyki i telemechaniki, v. 6, no. 4, 1961,  
455-452

TEXT: The author deduces equations governing static and dynamic behavior of a d.c. motor with independent excitation and controlled by impulses. The following cases are considered: characteristic of the motor without taking into consideration the inductance of rotor, and characteristic of the motor with dry friction. Generally, the signal must be long enough to accelerate the rotor past the point of maximum dry friction; otherwise, the motor will not be stable. Then the author takes into consideration the inductance of rotor, stressing the fact that this parameter is of special importance for a pulse-controlled d.c. motor. The duration of pulse must be of such a length as to overcome the dead zone which is

Card 1/2

Y

Control Characteristics of ...

P/031/61/000/004/006/010  
D242/D301

related to inductance and dry friction. Non-linear load might lead also to instability. The author establishes equations for optimum duration of the controlling pulse in order to reduce the dead zone to a minimum. There are 11 figures and 4 references: 3 Soviet-bloc and 1 non-Soviet bloc. The reference of the English-language publication reads as follows: R. Bright, function transistors used as switches, Trans. AIEE, v. 68, p. 100, 1958.

ASSOCIATION Zakład automatyki, Polskiej Akademii Nauk (Department for Automation, Polish Academy of Sciences)

SUBMITTED December 1960

Card 2/2

P/031/61/006/004/007/010  
D242/D301

16.8000

AUTHOR: Gutenbaum, Jakub

TITLE: Analysis of a follow-up system having a d.c. motor controlled by modulation of pulse duration

PERIODICAL: Archiwum automatyki i telemechaniki, v. 6, no. 4, 1961, 453-462

TEXT: A method for analyzing the dynamic characteristic of a follow-up system having a d.c. motor with independent excitation is presented. The motor is controlled by the duration of pulses. In order to simplify the analysis, a modified phase plane is introduced. The plane is modified in such a way that the increase in the Y coordinate is proportional to time. It is then much simpler to plot phase trajectories using a step-by-step method. The author deduces conditions for the stability of a closed-loop system. The method is particularly useful in cases of discontinuous

Card 1/1

Analysis of a...

P/031/61/005/004/007/010  
D242/D301

operation of the motor because it enables quick determination of conditions  
for stable operation of the system. There are 4 figures and 3 Soviet  
also references.

ASSOCIATION: Zaklad automatyki PAN (Department for Automation of  
Polish Academy of Sciences)

SUBMITTED: 2 Dec 1960

copy 2/1

GUTENBAUM, Jakub

Analysis of the action of a follow-up system with a direct current motor controlled by pulse duration modulation. Archiw automat 6 no.4: 453-462 '61.

1. Zaklad Automatyki Polskiej Akademii Nauk.

(Pulse techniques(Electronics))

L 18340-65 EWT(d) Po-4/Pq-4/Pg-4/Pk-4/Pl-4 IJP(c)/ASD(a)-5/AFTC(p)/SSD/  
 RAEM(a)/AFETR/AFMD(c)/RAEM(d)/ESD(dp) BC P/2519/64/000/005/0591/0598  
 ACCESSION NR: AT4049216

AUTHOR: Straszak, A. (Warsaw); Gutenbaum, J. (Warsaw)

TITLE: The synthesis of a self-stabilizing loop of a certain adaptive servomechanism controlled by changing the parameters

SOURCE: Polska Akademia Nauk. Instytut Podstawowych Problemow Techniki. Zagadnienia drgan nieliniowych, no. 5, 1964. Druga Konferencja Drgan Nieliniowych (Second Conference on Nonlinear Vibrations), Warsaw, Sept. 18-21, 1962, 591-598

TOPIC TAGS: system synthesis, automatic control system, self stabilizing loop, adaptive servomechanism, adaptive loop, parameter adjustment, quality criterion, Lyapunov method

ABSTRACT: In the case of automatic control systems which operate on a quality criterion which does not guarantee stable operation of the system, it is necessary to add an additional adaptive loop to the system. This article presents the operation of and a method for synthesizing a stabilizing adaptive loop in a control system in which

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L 18340-65

ACCESSION NR: AT4049216

the motor is controlled by modulating the pulse width or changing the resistance of the rotor circuit. A modification of the second method of Lyapunov is used as the stability criterion. Conditions are chosen such that the stability of the system can be judged by means of readily measurable quantities, such as the angular velocity or the angular position of the controlled variable. In case the stability conditions are not satisfied, the stabilizing circuitry acts to decrease the amplification factor. Orig. art. has: 5 figures.

ASSOCIATION: Institute of Automation, Polish Academy of Sciences,  
Warsaw

SUBMITTED: 26Sep62

ENCL: 00

SUB CODE: IE, DP

NO REF SOV: 000

OTHER: 000

Card 2/2



P/031/62/007/001/008/021  
D265/D308

AUTHOR: Gutenbaum, Jakub

TITLE: Harmonic linearization of the equations of d-c motor,  
controlled by means of the pulse-width modulation

PERIODICAL: Archiwum automatyki i telemechaniki, v. 7, no. 1-2,  
1962, 89 - 106

TEXT: The method is given of determining the describing function of an unloaded d-c motor with separate rotor excitation controlled by means of the pulse-width modulation where the change of the direction of the controlling signal is accompanied by the change of sign of the rotor supply voltage. The mathematical analysis is based on the fact that the pulse controlled motor is similar to a motor controlled by changing the resistance of the rotor circuit when the pulse period is small with respect to the electromechanic time constant of the rotor and the rotor inductance is neglected. There are 15 figures.

ASSOCIATION: PAN-zakład automatyki (PAS-Automation Establishment)

Card 1/1

STRASZAK, A.A., dr inz.; GUTENBAUM, J., mgr inz.

"Outlines of operative automatic control" by Erwin Samal.  
Reviewed by A.A.Straszak, J.Gutenbaum. Pomiar 8 no.8:396 Ag  
'62.

GAWRONSKI, Ryszard, dr inz.; GUTENBAUM, Jakub, dr inz.

Terminology of the theory of automatic control. Problemy 19  
no.10:637 '63.

1. Zaklad Teorii Sterowania, Instytut Automatyki, Polska Akademia  
Nauk, Warszawa.

IOLAND

GUTENBAUM, Jakub

Steering Theory Laboratory, Automation Institute, Polish Academy  
of Sciences (Zaklad Teorii Sterowania, Instytutu Automatyki, PAN)

Warsaw, Archiwum automatyki i telemekhaniki, No 2, April-June 1965,  
pp 199-207

"Determination of parameters of some multidimensional nonlinear  
control objects."

POLAND

GUTENRAUM, Jakub

Automation Institute, Polish Academy of Sciences, Dept. of Steering  
Theory (Instytut Automatyki PAN, Zaklad Teorii Sterowania)

Warsaw, Archiwum automatyki i telemechaniki, No 1, Jan/Mar 1966,  
pp 25-33

"Adaptive control system with integral performance index."

L 18817-66 EWP(1) IJP(c) BC

ACC NR: AP5023975

SOURCE CODE: PO/0031/65/010/002/0199/0207

AUTHOR: Gutenbaum, J. —Gutenbaum, Ya.

ORG: Department of Control Theory, Institute of Automation of the Polish Academy of Sciences (Zaklad Teorii Sterowania Instytutu Automatyki PAN)

TITLE: Determination of parameters of certain multidimensional nonlinear control objects

SOURCE: Archiwum automatyki i telemekhaniki, v. 10, no. 2, 1965, 199-207

TOPIC TAGS: nonlinear automatic control, automatic control technology, parameter, differential equation, ~~mathematical~~, electronic feedback, *optimization*

ABSTRACT: A method of determining some unknown but sufficiently slowly changing parameters of control objects during their operation is suggested. This method is an extension of the method described by E. Mishkin and L. Braum (Adaptacyjne układy sterowania automatycznego, WNT, 1965), and by J. Zaborsky and R. Berger (An integral square self-optimizing adaptive control, Appl. and Ind., No. 11, 1962), on certain nonlinear multidimensional and nonautonomous systems. The assumption that all state coordinates of the system and the disturbing and control signals can be directly measured allows this generalization, and the differential equations describing the system can be presented in a formula. An example for determining gain coefficients in the system with an object consisting of n inertial elements of the first order with feed-

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ACC NR: AP5023975

back and cross couplings was considered. An example of optimal adjustment of controller parameters for an object consisting of two integrators connected in series was also analyzed. The author thanks Engineer K. Manczakow for his valuable remarks in this work. Orig. art. has: 6 figures and 24 formulas. [Based on author's abstract.] [NT]

SUB CODE: 13, 12/ SUBM DATE: 11Jan65/ OTH REF: 005/

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POLAND

PIETKIEWICZ, Hanna, mgr inż.; WAGNER, Dariusz, mgr inż.; GUTENBAUM, Jakub, dr inż.

No affiliation given

Warsaw, Archiwum automatyki i telemekhaniki, No 1, Jan/Mar 1966, pages  
101-113

"A bibliography of adaptive control systems 1963-1964."

Notes: this is a continuation of "Bibliography of adaptive control systems  
1956-1962", published as Prace Instytutu Automatyki PAN, zeszyt 3, 1963.



L 30048-66 EWP(v)/EWP(k)/EWP(h)/EWP(l) BC

ACC NR: AP6009596

SOURCE CODE: PO/0031/66/011/001/0025/0034

AUTHOR: Gutenbaum, Jakub — Gutenbaum, Ya.

ORG: Institute of Automation of the Polish AS (Instytut automatyki PAN), Department of the Theory of Control (Zaklad Teorii Sterowania)

TITLE: Adaptive control system with an integral performance index

SOURCE: Archiwum automatyki telemechaniki, v. 11, no.1, 1966, 25-34

TOPIC TAGS: automation, optimal control, optimal automatic control, linear system

ABSTRACT: The article describes a certain method for measuring the integral performance index and the adaptive algorithm based on this method which makes it possible to look for optimal control parameters which obviates the necessity of starting the measurement always from the same initial conditions. This algorithm can also be applied in the particular case where the object parameters are rapidly changing. The quality of the control system considered here can be defined by the integral quality index. The necessity of always starting from the initial conditions, eliminated here, complicates in a fundamental way the design of adaptive control systems based on the integral quality criterion. The method does not require feeding a test signal into the system and does not entail losses due to scanning. The

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SOURCE CODE: PO/0031/65/010/002/0199/0207

AUTHOR: Gutenbaum, J.—Gutenbaum, Ya.

ORG: Department of Control Theory, Institute of Automation of the Polish Academy of Sciences (Zaklad Teorii Sterowania Instytutu Automatyki PAN)

TITLE: Determination of parameters of certain multidimensional nonlinear control objects

SOURCE: Archiwum automatyki i telemekhaniki, v. 10, no. 2, 1965, 199-207

TOPIC TAGS: nonlinear automatic control, automatic control technology, parameter, differential equation, ~~mathematical~~, electronic feedback, optimization

ABSTRACT: A method of determining some unknown but sufficiently slowly changing parameters of control objects during their operation is suggested. This method is an extension of the method described by E. Mishkin and L. Braum (Adaptacyjne układy sterowania automatycznego, WNT, 1965), and by J. Zaborsky and R. Berger (An integral square self-optimizing adaptive control, Appl. and Ind., No. 11, 1962), on certain nonlinear multidimensional and nonautonomous systems. The assumption that all state coordinates of the system and the disturbing and control signals can be directly measured allows this generalization, and the differential equations describing the system can be presented in a formula. An example for determining gain coefficients in the system with an object consisting of n inertial elements of the first order with feed-

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back and cross couplings was considered. An example of optimal adjustment of controller parameters for an object consisting of two integrators connected in series was also analyzed. The author thanks Engineer K. Manczakow for his valuable remarks in this work. Orig. art. has: 6 figures and 24 formulas. [Based on author's abstract.] [NT]

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V. F. Savarenskiy. eca. izd. Inostrank. Literatur, 1948. (State Publishing  
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Budapest, Hungary. Vol. 23, no. 1/2, 1958.

Monthly list of East European Accessions (EEAI) LC, vol. 8, no. 2,<sup>July</sup>1959.

Uncl.

KALININ, M.A., uchitel'; KRASIKOV, I.N., uchitel'; PETROV, P.F.,  
zasluzhenny uchitel' shkoly RSFSR; PODOSINKIN, B.N., uchitel';  
KALUZHSKIKH, N.I., uchitel'; YEGYAZARYAN, D.; OKHAPKIN, F.P.  
(Kirov); GUTENEV, P.A. (s.Mikhaylovskoye Stavropol'skogo kraya)

Editor's mail. Geog. v shkole 25 no.1:58-61 Ja-F '62. (MIRA 14:1)

1. 1-ya shkola g. Boksitogorska (for Kalinin). 2. Sydinskaya  
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Shkola imeni M.I. Kalinina, g. Buguruslan (for Petrov). 4. 5-ya  
shkola g. Ishimpaya (for Podosinkin). 5. Nizhne-Smorodinskaya  
shkola Kurskoy oblasti (for Kaluzhskikh). 6. Aygestanskaya  
shkola Armyanskoy SSR (for Yegyazaryan).

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Results of 205 operations performed on a "dry" heart under conditions of surface hypothermia. Uch. trudy GMI no.19:125-136 '65.

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GRINVALD, Clara; GUTENMAHER, I.; MAVROMATI, Elena

Genetic study of wheat-rye hybrids. Studii cerc biol veget 13 no.3:  
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*Regulating Circuits*

7861 SOME NEW APPLICATIONS OF CHAIN CIRCUITS  
L. I. GUTENMAKHER, (*Journ. of Tech. Phys.*;  
*Russian*), No. 1/3, Vol. 12, 1942, pp. 83-94.)  
In measuring and automatic-control circuits it is often  
necessary to control the speed of the variation of the  
current. In this paper a method of retardation is pro-  
posed based on the use of a chain circuit consisting of  
number of series-connected T or  $\pi$ -type elements (Fig. 1).  
The operation of the circuit is discussed with a number  
of oscillograms and curves, and design methods are  
indicated. A circuit (Fig. 11) is also described for  
retarding the current vector with respect to the voltage  
vector.